CLAIMS

What is claimed is:

1. A method for determining and evaluating attributes and components of a subsystem of an aircraft, the method comprising the steps of:

providing a module for allowing an individual to enter a plurality of parameters related to an aircraft with which the subsystem is to be used;

from said parameters, calculating and displaying information relating to a plurality of attributes of said subsystem comprising one of the group of factors of reliability, dependability, costs and maintainability.

2. The method of claim 1, further comprising the step of:

providing said information to said individual in a plurality of fields of a screen displayed on a computer display screen; and

allowing said user to override selected portions of said information with user selected values; and

using said method to re-calculate said attributes of said system.

3. The method of claim 2, the method of claim 2, further comprising the step of allowing said user to lock-in selected portions of said information, whereafter said lock-in portions of information are not changed when said method is used to re-calculate said attributes of said system.

4. The method of claim 1, wherein said step of entering a plurality of parameters comprises the step of entering at least the number of engines of said aircraft.

5. The method of claim 1, wherein said step of entering a plurality of parameters comprises the step of entering at least the maximum takeoff weight (MTOW) of said aircraft.

6. The method of claim 1, further comprising the step of calculating, from said parameters,

7. The method of claim 1, further providing the step of using an electronic data dictionary, accessible by said individual, to allow said individual to reference explanations and formulas relating to said information calculated by said method.

8. The method of claim 1, further comprising the step of allowing said individual to select from one of a plurality of electrical system architectures for said aircraft prior to using said method to calculate said information.

9. A program for determining and evaluating attributes and components of a subsystem of an aircraft, the program comprising:

an airplane parameters module for allowing an individual to enter a plurality of parameters related to an aircraft with which the subsystem is to be used;

a configuration module for allowing said individual to enter a plurality of parameters relating to a construction of said aircraft and electrical power and distribution system (EPGDS) parameters; and

a system attributes module responsive to information from said configuration module for generating information relating to at least one of the group comprising dependability, costs, reliability and maintainability, of components of said EPGDS and for displaying said information on display screen.

10. The program of claim 9, further comprising a loads module responsive to said parameters entered into said parameters module, for performing electrical loads analysis associated with components of said EPGDS and displaying information relating thereto on said display screen.

11. The program of claim 9, further comprising an architecture module responsive to information input to said airplane parameters module for determining quantities of specific components for said EPGDS and for displaying said quantities on said display screen.

12. The program of claim 9, further comprising:

a loads module responsive to said parameters entered into said parameters module, for performing electrical loads analysis associated with components of said EPGDS and providing the required alternating current (AC) and direct current (DC) load capacities for said EPGDS components, and for displaying information relating thereto on said display screen;

an architecture module responsive to information input to said airplane parameters module for determining specific components for said EPGDS and for displaying said specific components on said display screen; and

an architecture module responsive to information input to said airplane parameters module for determining quantities of specific components for said EPGDS and for displaying said quantities on said display screen.

13. The program of claim 9, further comprising an electronic data dictionary for allowing said individual to review reference material concerning said information generated by said program.

14. The program of claim 9, further comprising:

a loads module responsive to said parameters entered into said parameters module, for performing electrical loads analysis associated with components of said EPGDS and providing the required alternating current (AC)

and direct current (DC) load capacities for said EPGDS components, and for displaying information relating thereto on said display screen;

an architecture module responsive to information input to said airplane parameters module for determining specific components for said EPGDS and for displaying said specific components on said display screen; and

a generation module responsive to information generated by said loads and architecture modules, for sizing said components of said EPGDS and displaying information relating thereto on a display screen; and

a weight summaries module responsive to said information generated by said for determining, summarizing and totaling the individual weights associated with said EPGDS components.

15. The program of claim 9, further comprising a distribution module for determining information relating to an electrical feeder configuration for said aircraft, and for displaying said information to said individual.

16. The program of claim 9, wherein said system attributes module calculates information concerning at least factor of the group of 8 factors comprising:

дependability cost;

system acquisition costs;

fuel costs;

spares costs;

line maintenance costs;

shop maintenance costs;

scheduled maintenance costs; and

schedule interruption costs;

and wherein said system attributes module further provides a dependability cost summary for summarizing a cost of at least one of said 8 above-listed factors.

17. The program of claim 9, wherein said system attributes module predicts reliabilities for specific ones of said EPGDS components; and

wherein said predicted reliability is provided for at least one of the group comprising:

main power reliability;

backup power reliability;

standby power reliability; and

FCDC (flight control DC).

18. The program of claim 9, wherein said system attributes module predicts and displays maintainability for specific ones of said EPGDS components; and

wherein said maintainability comprises:

maintenance times including main time between unscheduled repair (MTBUR) at least one of said EPGDS components;

maintenance preparation times for a plurality of tasks associated with performing maintenance on said at least one EPGDS component; and

inherent availability of said at least one EPGDS component.

19. A system for determining and evaluating attributes and components of an electrical power distribution and generation (EPGDS) subsystem of an aircraft, the system comprising:

an airplane parameters module for allowing an individual to enter a plurality of parameters related to an aircraft with which the EPGDS subsystem is to be used;

a configuration module for allowing said individual to enter a plurality of parameters relating to a construction and configuration of said aircraft and EPGDS parameters;

a system attributes module responsive to information from said configuration module for generating information relating to at least one of the group comprising dependability, costs, reliability and maintainability, of components of said EPGDS and for displaying said information on display screen;

a loads module responsive to said parameters entered into said parameters module, for performing electrical loads analysis associated with components of said EPGDS and displaying information relating thereto on said display screen; and

an architecture module responsive to information input to said airplane parameters module for determining quantities of specific components for said EPGDS and for displaying said quantities on said display screen.

20. The system of claim 19, further comprising:

an architecture module responsive to information input to said airplane parameters module for determining quantities of specific components for said EPGDS and for displaying said quantities on said display screen.

21. The system of claim 19, further comprising:

an electronic data dictionary for allowing said individual to review reference material concerning said information generated by said program.